

Media Release

01 June 2021

## Research collaboration on Space Technology with Swinburne

### Highlights

- **Amaero and Swinburne University of Technology have established a research collaboration agreement to jointly work on coatings for rocket engine components.**
- **The collaboration will focus on the development and manufacturing of Compliant Multilayer Environmental Barrier Coatings for use in extreme operating environments.**
- **The outputs of the research will have commercial applications in aviation, space, defence, and high temperature processing environments.**

Amaero International Limited (“Amaero”), (the “Company”) (ASX:3DA), a leader in metal additive manufacturing, is pleased to announce that the Company has entered into a research collaboration with Swinburne University of Technology (“Swinburne”) and the Australian National Fabrication Facility Limited (“ANFF”) on a project to develop coatings for internal turbine engine surfaces and nozzles.

The project’s aim is to advance Compliant Multilayer Environmental Barrier Coatings (“EBCs”) that can be applied to rocket engine components. The outputs of the research will have commercial applications in aviation, space, defence, and high temperature processing applications.

Through the research collaboration Amaero will:

- Identify suitable 3D printed designs that allow for the construction of the EBCs
- Provide technical advice during manufacturing and performance testing.
- Manufacture and provide of full-scale demonstrator parts to meet the EBC requirements
- Provide \$150,000 (ex-GST) funding over a 48-month period to support two PhD students and direct cost to work on this project as well as ~ \$150,000 of value in kind.

Swinburne will also contribute to the cost of the project and provide in-kind contributions, focusing on:

- Identification of EBC microstructures, designs, and alternative material systems to meet commercial relevant requirements and develop approaches to fabricate the identified EBCs
- Responding to industry expert’s feedback concerning optimisation of the microstructure for the EBC application
- Conducting fabrication trials that meet the commercial relevant EBC requirements.

This collaboration highlights the global significance of Australia’s research capability and the growing presence of Australian technology within the aerospace and additive manufacturing sectors.

**Commenting on the Agreement Amaero CEO, Barrie Finnin, said:** “We are very pleased to be collaborating with Swinburne University of Technology on researching and developing specific barriers and coatings. The global space industry represents a significant large and strategic commercial opportunity for Amaero and this research will enhance the industry leading technology that our Company provides. We look forward to working with Swinburne and the ANFF on this research and development project and benefiting from the commercial opportunities arising from the outcomes.”

Prof. Alan Duffy, Lead Scientist of the Royal Institution of Australia and Director of Swinburne’s Space Technology and Industry Institute, added: “This is an exciting project that showcases Swinburne’s strength in materials and coatings for space. By bringing together the brightest minds and world class capabilities from Swinburne, ANFF, and local industry excellence in Amaero we can address the material issues within the extreme environment of a turbine engine. In solving this problem for space, we also benefit through its use back on Earth. Swinburne is delighted that Amaero is partnering with us in this breakthrough space manufacturing technology.

This release is approved by the Board of Amaero International Limited.

**For Further Information, please contact:**

**Corporate:**

Barrie Finnin

CEO

Amaero International Limited

info@amaero.com.au

**Investors:**

**Craig Sainsbury**

Market Eye

+61 (0) 428 550 499

craig.sainsbury@marketeye.com.au

About Amaero International Limited:

Amaero International Limited is an Australian based company that manufactures large format complex components in metal with laser-based additive manufacturing processes, commonly known as 3D printing.

Amaero has worked with many of the world’s leading manufacturers of aerospace and defence products in both an R&D and manufacturing capability and has a demonstrated ability to deliver aviation and military specification 3D printed alloy critical operation components.

Amaero was established with the support of Monash University in 2013 to take advantage of commercial opportunities identified by the Monash Centre for Additive Manufacturing (MCAM). Amaero is co-located with MCAM in Melbourne Australia. It operates two additional facilities, in Adelaide, South Australia, and El Segundo, California, USA.